

## LA-UR-18-27304

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Title: An INTERNET OF THINGS Commercial Opportunity

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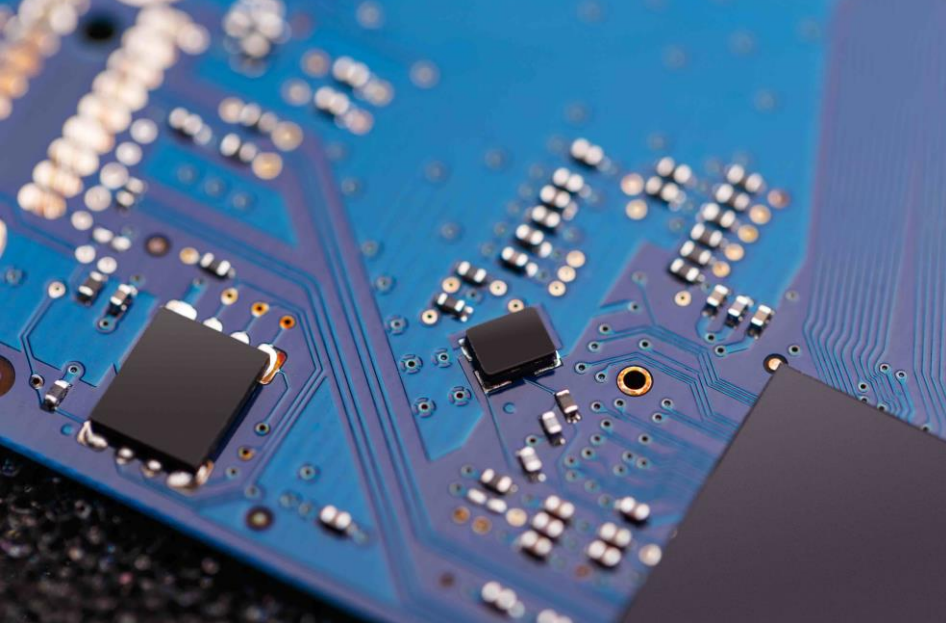
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An  
**INTERNET OF THINGS**  
Commercial Opportunity

LAUR #



## REQUEST FOR **INFORMATION**

### Computing at the Edge – loGET Intelligent Processing at the Sensor to Enhance Data Efficiency

Currently environmental sensing is manual, expensive, time-consuming, and requires high-power. **loGET** is being developed to monitor earth and environmental processes via fast and automated data processing at sensor nodes. **loGET** transforms the difficult, complicated, and manual practice of data collection into an automated process.



## AREAS FOR **PARTNERSHIP**

The Los Alamos team has identified areas for partnership and/or exclusive or nonexclusive, commercial licensing to advance the **loGET** technology. Los Alamos has initiated work on these topics. Collaboration with a commercialization partner could enhance functionality by:

- Sharing large data sets for testing of performance of algorithms.
- Providing access to various sensor interfaces used in the field to adapt and test algorithms.
- Enabling a field test on oil wells in operation.

Please submit a written response to the contact below if your organization would like to pursue the technology in partnership with Los Alamos by **September 7, 2018**.

### CONTACT:



Don Hickmott



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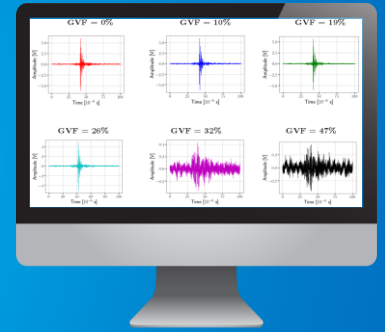


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## WHY WE ARE BUILDING **loGET**

Every year 30,000 oil and gas wells are drilled across the United States and over 500,000 wells remain in production. A loss of ~ \$500/hour is incurred if a well is not operational. Sensors at wellheads monitor oil extraction, gas & water content, and much more. Obtaining actionable information from large data streams to prevent well shut-downs is a major challenge.



## WHAT'S BEHIND OUR **TECHNOLOGY**

Our loGET software is using recent advancements in machine learning and signal processing to condense voluminous amounts of sensor data in real-time. The data is compressed by a factor of ~ 100, which improves transfer of actionable information to end-users.



## OUR **COMPETITIVE ADVANTAGES**

- ▶ Low cost
- ▶ Fast deployment into the field
- ▶ A portable and mobile solution
- ▶ Much lower costs compared to today's edge computing solutions in the field



## WHAT'S UNIQUE ABOUT OUR **SOLUTION**

loGET provides automated and smart sensing in near real-time by combining low-cost and energy-efficient sensors, smart computing devices (such as Raspberry Pi), and LANS' machine learning software to reduce large volumes of sensor data (terabytes) into actionable information (kilobytes).



## OUR **TECHNOLOGY STATUS**

The loGET software has undergone successful testing in a lab-setting to identify gas content in oil-water-gas mixtures. The next round of testing will be on commercial oil & gas, seismic, and/or environmental datasets.



## **PUBLICATIONS AND INTELLECTUAL PROPERTY**

Invention and copyright disclosures have been submitted.